

REMARKS/ARGUMENTS

Claims 1 and 3 to 27 are pending in the present application, of which claims 1, 14, 15, 21 and 27 are the independent claims currently under consideration.

Claim Rejections – 35 U.S.C. § 102

Claims 1, 3 to 8 and 12 to 27 are rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 7,016,651 (“Narasimhan”). Applicant has reviewed the applied reference and respectfully submits that the claimed invention is patentably distinguishable over the applied reference for at least the following reasons.

The applied reference is not seen to disclose or suggest the features of the claimed invention, particularly with respect to at least the features of (i) averaging received power with at least one previously stored received power measurement for an unassigned sub-carrier frequency band (as in claim 1); (ii) averaging the power of a signal with previously stored values to generate a noise estimate (as in claims 14 and 27); and (iii) determining an average noise estimate based in part on a noise estimate and a previously stored noise estimate (as in claims 15 and 21).

Narasimhan is seen to be directed to measuring signal quality in a communications link supporting OFDM symbol transfer across plural sub-carriers. Narasimhan, Abstract. The Office Action cites col. 8, ll. 17-47 of Narasimhan as allegedly teaching “averaging the power over the number of OFDM symbols and measuring signal quality and performing SNR estimate on a per symbol basis.” Office Action, p. 2. Even assuming, *arguendo*, that Narasimhan taught such a method of averaging, this would not anticipate render obvious the claimed invention. In providing SNR estimates on a *per symbol basis*, Narasimhan would be providing an estimate of SNR for a *fixed point in time*, namely, the point in time in which a symbol was communicated across several sub-channels which vary in frequency. This is entirely unlike the claimed invention, which averages the power of a signal with *previously stored* values. Nowhere is Narasimhan seen to store previous values of the power of a signal. While the Office Action cites element 420 of Figure 4 of Narasimhan (Office Action, p. 3) for allegedly teaching “averaging the received power with at least one previously stored power measurement to produce a noise estimate corresponding to the unassigned sub-carrier frequency band,” an examination of Figure 4 of Narasimhan reveals that a signal quality estimate, which is obtained using the SNR_{geo}

estimate (*see* element 410), is compared to a previous signal quality estimate to determine whether a “big change” (*see* element 425) has occurred in the signal quality. Thus, while Narasimhan compares a signal quality estimate with a previously obtained signal quality estimate, nowhere is Narasimhan seen to average the *power* of a signal with previously stored values to generate a noise estimate.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631 (Fed. Cir. 1987); *see also* MPEP § 2131. Because Narasimhan fails to disclose or suggest the features of amended independent claims 1, 14, 15, 21 and 27, at least with respect to the features of (i) averaging received power with at least one previously stored received power measurement for an unassigned sub-carrier frequency band, (ii) averaging the power of a signal with previously stored values to generate a noise estimate, and (iii) determining an average noise estimate based in part on a noise estimate and a previously stored noise estimate, these claims are believed to be patentably distinguishable over the applied reference, and reconsideration and withdrawal of the 35 U.S.C. § 102(e) rejection of these claims are respectfully requested.

The other claims currently under consideration in the application are dependent from the independent claims discussed above and therefore are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

Claim Rejections – 35 U.S.C. § 103

Claim 9 is rejected under 35 U.S.C. §103(a) over Narasimhan in view of U.S. Patent No. 7,197,085 (“Vella-Coleiro”); claim 10 is rejected under 35 U.S.C. §103(a) over Narasimhan in view of U.S. Patent No. 6,757,241 (“Jones”); and claim 11 is rejected under 35 U.S.C. §103(a) over Narasimhan in view of Jones and further in view of U.S. Patent No. 6,549,561 (“Crawford”). Applicant has reviewed the applied references and respectfully submits that the claimed invention is patentably distinguishable over the applied references for at least the following reasons.

Vella-Coleiro, Jones and Crawford, which were used in the rejection of certain dependent claims, are not seen to remedy the foregoing deficiencies of Narasimhan. Vella-Coleiro is seen

to be generally directed to frequency-dependent magnitude pre-distortion for reducing spurious emissions. *See* Vella-Coleiro, Abstract. Jones is seen to be generally directed to a spatial processor that exploits signals that arrive via multiple outputs of a communication channel to provide soft decision values. *See* Jones, Abstract. Crawford is seen to be generally directed to a pilot phase tracking loop for an OFDM receiver. *See* Crawford, Abstract. Nowhere is Vella-Coleiro, Jones or Crawford seen to disclose or suggest averaging received power with at least one previously stored received power measurement for an unassigned sub-carrier frequency band, averaging the power of a signal with previously stored values to generate a noise estimate, or determining an average noise estimate based in part on a noise estimate and a previously stored noise estimate. Accordingly, the applied references, whether taken alone or in combination, are not seen to disclose or suggest the features of the claimed invention.

CONCLUSION

In light of the remarks contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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By: /Larry Moskowitz/
Larry Moskowitz, Reg. No. 42,911
(858) 651-4556

QUALCOMM Incorporated
Attn: Patent Department
5775 Morehouse Drive
San Diego, California 92121-1714
Telephone: (858) 658-5787
Facsimile: (858) 658-2502
ORC 440954-1.079916.0183